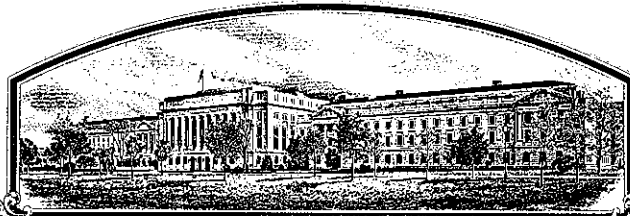


No.



9200159

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Pioneer Hi-Bred International, Inc.**

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (AT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'2737W'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 30th day of April in the year of our Lord one thousand nine hundred and ninety-three.

Attest

*Kenneth H. Evans*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Mike Egan*  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Pioneer Hi-Bred International, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. WBA453L2	3. VARIETY NAME 2737W
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) Dept. of Wheat Breeding R.R. 1 Box 297A Windfall, IN 46076		5. PHONE (include area code) (317) 945-7906	<b>FOR OFFICIAL USE ONLY</b> PVPO NUMBER 9200159 Filing Date April 17, 1992 Time <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M. Filing and Examination Fee: \$2150. Date April 17, 1992 Certificate Fee: \$April 6, 1993 Date 150.00
6. GENUS AND SPECIES NAME Triticum aestivum	7. FAMILY NAME (Botanical) gramineae		
8. CROP KIND NAME (Common Name) Wheat	9. DATE OF DETERMINATION August 1, 1989		
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Iowa		12. DATE OF INCORPORATION May 1926	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. Gregory C. Marshall Pioneer Hi-Bred International, Inc. R.R. 1 Box 297A Windfall, IN 46076			

PHONE (include area code): (317) 945-7906

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

a. ☒ Exhibit A, Origin and Breeding History of the Variety.

b. ☒ Exhibit B, Novelty Statement.

c. ☒ Exhibit C, Objective Description of Variety.

d. ☒ Exhibit D, Additional Description of Variety.

e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office 4/16/92

g. ☒ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)  
☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?  
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?  
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?  
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date. )  
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?  
☐ YES (If "YES," give names of countries and dates)  
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT [Owner(s)] Gregory C. Marshall	CAPACITY OR TITLE Coordinator of Soft Winter Wheat Breeding	DATE 4/16/92
SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE

## Exhibit A. Origin and Breeding History of Pioneer cultivar 2737W.

Pioneer cultivar '2737W', Triticum aestivum L., em Thell., a soft white winter wheat was developed by Pioneer Hi-Bred international Inc.. Using a modified pedigree breeding method, 2737W was derived from the four parent cross: 'Frankenmuth'/'2550'//Pioneer line 'W9018A'/'Houser'. Frankenmuth and Houser are soft white winter wheat cultivars developed and released by Michigan State University and Cornell University in New York, respectively. Pioneer cultivar 2550 is a soft red winter wheat developed and released by Pioneer Hi-Bred International in 1982. Pioneer line W9018A is an experimental soft red winter wheat derived from the cross: 'W521'/'S76'. The parentage of Pioneer line W521 is one-quarter CIMMYT spring wheat and three-quarters soft red winter wheat although the exact parents are not known. Pioneer cultivar S76 is a soft red winter wheat developed and released by Pioneer Hi-Bred International in 1976.

The two single crosses: Frankenmuth/2550 (designated 'WBZ999') and W9018A/Houser (designated 'WBZ689') were made in the fall 1979 greenhouse cycle. The final cross, WBZ999/WBZ689, was made in the fall 1980 greenhouse cycle and coded 'WBA452'. The  $F_1$  was grown in the 1981 transplant nursery at Windfall, IN. The  $F_2$  population was planted in plots at Windfall and Ft. Branch, IN in the fall of 1981. Individual spikes were selected at Windfall, IN., individually threshed, and 73  $F_3$  headrows were eventually

## 14A. Exhibit A (con't.)

planted at Windfall, IN. in the fall of 1982. Eight heads were harvested from each of the eight selected  $F_3$  rows. Four  $F_4$  headrows were planted in the fall of 1983 at both Ft. Branch and Windfall, IN. from each selected row. Four  $F_4$  rows were selected at Ft. Branch and eight heads were harvested per row. Three of the rows also were cut in bulk for entry into a preliminary yield test. Four  $F_5$  headrows were planted in the fall of 1984 at Ft. Branch and Windfall, IN. from each selected row. Nine  $F_5$  rows were selected at Windfall, IN., eight heads harvested per row and the remainder of the row cut and threshed in bulk. The bulk seed from each row became individual entries in a preliminary white wheat yield trial. Four  $F_6$  headrows were planted in the fall of 1985 at Windfall and Ft. Branch, IN. from each selected  $F_5$  row. A total of 30  $F_6$  headrows were selected and cut in bulk for individual entry in the preliminary white wheat test in the fall of 1986. The headrow bulk which became 2737W was designated WBA452L2 at that time. Since entry into yield trial evaluation in 1986, WBA452L2 has been extensively evaluated for grain yield, agronomic traits, disease reaction, milling, and baking properties. In 1988 200  $F_8$  heads were harvested from a small bulk increase, individually threshed and planted as purification headrows. Offtype rows were destroyed prior to maturity and 16 headrows were harvested individually. The remaining headrows were cut in bulk. The seed from the headrows and the bulk constitute breeders seed and was turned over to Pioneer's Parent Seed

## 14A. Exhibit A. (con't.)

department for continued multiplication. WBA452L2 was designated XW791 and 2737W after the 1990 and 1991 harvests, respectively.

2737W has shown uniformity and stability for all traits described in Exhibit C of this document.

2737W is a distinctive soft white winter wheat cultivar which, on average during the growing season, resembles Pioneer cultivar 2550. There are several distinct differences in performance and plant morphology. The grain yield of 2737W is approximately 10% greater than 2550 (Table 1) and the test weight is about 1 lb less than 2550 (Table 1) in three years of wide area yield testing. The milling and baking properties of 2737W are superior to those of 2550 (Table 2). 2737W and 2550 head at about the same time but 2737W averages 4.4 cm shorter than 2550. The leaf rust resistance of 2737W is superior to that of 2550. The resistance of 2737W to fungal leaf blight organisms and to powdery mildew are slightly lower than 2550. 2737W does not have a waxy bloom on its culm or flag leaf sheath as 2550 does. The flag leaf of 2737W is erect and twisted while the flag leaf of 2550 is not. The glumes of 2737W are short and narrow while those of 2550 are long and wide. The kernel of 2737W is white while 2550's kernel is red.

9200159

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK AND SEED DIVISION  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY  
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Pioneer Hi-Bred International, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

Dept. of Wheat Breeding  
R.R. 1, Box 297A  
Windfall, IN. 46076

FOR OFFICIAL USE ONLY

PVPO NUMBER

9200159

VARIETY NAME OR TEMPORARY  
DESIGNATION

2737W

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g., 0 8 9 or 0 9 ) when number is either 99 or less or 9 or less.

1. KIND:

1 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

2 1 = SPRING 2 = WINTER 3 = OTHER (Specify) 1 1 = SOFT 3 = OTHER (Specify)  
2 = HARD

1 1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

2 1 8 FIRST FLOWERING 2 2 5 LAST FLOWERING

4. MATURITY (50% Flowering):

0 NO. OF DAYS EARLIER THAN 7 1 = ARTHUR 2 = SCOUT 3 = CHRIS 7 = Pioneer  
0 NO. OF DAYS LATER THAN 4 = LEMHI 5 = HUGAINES 6 = LEEDS variety 2550

5. PLANT HEIGHT (From soil level to top of head):

0 9 3 CM. HIGH  
CM. TALLER THAN  
0 4 CM. SHORTER THAN 7 1 = ARTHUR 2 = SCOUT 3 = CHRIS 7 = Pioneer  
4 = LEMHI 5 = HUGAINES 6 = LEEDS variety 2550

6. PLANT COLOR AT BOOTING (See reverse):

2 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHUR COLOR:

1 1 = YELLOW 2 = PURPLE

8. STEM:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT

1 Waxy bloom: 1 = ABSENT 2 = PRESENT

2 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

1 Internodes: 1 = HOLLOW 2 = SOLID

0 4 NO. OF NODES (Originating from node above ground)

1 9 CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT

2 Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

1 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED  
3 = OTHER (Specify):

2 Flag leaf: 1 = NOT TWISTED 2 = TWISTED

1 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

1 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

1 2 MM. LEAF WIDTH (First leaf below flag leaf)

3 0 CM. LEAF LENGTH (First leaf below flag leaf):

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## 11. HEAD:

☐ 2 Density: 1 = LAX 2 = DENSE☐ 1 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE  
4 = OTHER (Specify) \_\_\_\_\_☐ 1 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED☐ 1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
5 = BROWN 6 = BLACK 7 = OTHER (Specify): \_\_\_\_\_☐ 0 ☐ 7 CM. LENGTH☐ 1 ☐ 2 MM. WIDTH

## 12. GLUMES AT MATURITY:

☐ 1 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)  
3 = LONG (CA. 9 mm.)☐ 1 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)  
3 = WIDE (CA. 4 mm.)☐ 2 Shoulder 1 = WANTING 2 = OBLIQUE 3 = ROUNDED  
shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE☐ 2 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

## 13. COLEOPTILE COLOR:

☐ 1 1 = WHITE 2 = RED 3 = PURPLE

## 14. SEEDLING ANTHOCYANIN:

☐ 1 1 = ABSENT 2 = PRESENT

## 15. JUVENILE PLANT GROWTH HABIT:

☐ 1 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

## 16. SEED:

☐ 2 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL☐ 1 Check: 1 = ROUNDED 2 = ANGULAR☐ 1 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG☐ 1 Brush: 1 = NOT COLLARED 2 = COLLARED☐ 4 Phenol reaction 1 = IVORY 2 = FAWN 3 = LT. BROWN  
(See Instructions): 4 = BROWN 5 = BLACK☐ 1 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) \_\_\_\_\_☐ 0 ☐ 6 MM. LENGTH☐ 0 ☐ 3 MM. WIDTH☐ 3 ☐ 2 GM. PER 1000 SEEDS

## 17. SEED CREASE:

☐ 1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'  
2 = 80% OR LESS OF KERNEL 'CHRIS'  
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'☐ 1 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'  
2 = 35% OR LESS OF KERNEL 'CHRIS'  
3 = 50% OR LESS OF KERNEL 'LEMHI'

## 18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 2 STEM RUST (Races) TNMH  
QFBS☐ 2 LEAF RUST (Races) \_\_\_\_\_☐ 0 STRIPE RUST (Races) \_\_\_\_\_☐ 0 LOOSE SMUT☐ 2 POWDERY MILDEW☐ 0 BUNT☐ 2 OTHER (Specify) Wheat soilborne mosaic virus  
Wheat spindle streak mosaic vir

## 19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 SAWFLY☐ 0 APHID (Bydr.)☐ 0 GREEN BUG☐ 0 CEREAL LEAF BEETLE☐ OTHER (Specify) \_\_\_\_\_HESSIAN FLY  
RACES:☐ 0 GP☐ 0 A☐ 1 B☐ 0 C☐ 0 D☐ 2 E☐ 0 F☐ 0 G

## 20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	2548	Seed size	2548
Leaf size	2510 but longer	Seed shape	Frankenmuth
Leaf color	2555	Coleoptile elongation	2510
Leaf carriage	2510	Seedling pigmentation	2550

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

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## 14D. Exhibit D. Additional Description of Variety.

2737W is moderately resistant to leaf rust (Puccinia recondita f.sp. tritici) and to stem rust (Puccinia graminis f.sp. tritici) in the soft red and soft white winter wheat region (Table 1). Based on seedling tests performed at the Plant Disease Clinic of the Univ. of Minnesota, St Paul, MN., 2737w is postulated to have genes Lr 3, and 11 and Sr 10 and 17 for leaf and stem rust resistance, respectively. 2737W has exhibited moderate resistance to powdery mildew (Erysiphe graminis f.sp. tritici) isolates found in the Corn Belt (Table 1) of the United States. 2737W has shown good resistance to wheat soil borne mosaic virus, wheat spindle streak mosaic virus, as well as the complex of organisms inciting the fungal leaf blights (Table 1).

2737W has tested resistant to biotype E and susceptible to biotype B of Hessian fly. This, along with pedigree information, suggests 2737W has H3 and H7H8 for Hessian fly resistance. It has not been tested against other specific biotypes of Hessian fly. Seedling screening for Hessian fly biotypes was conducted by the Small Grains Pest Resistance Group, Dept. of Entomology, Purdue Univ., West Lafayette, IN.

2737W has a very good yield record especially when compared to other contemporary soft white winter wheats. The high yield is accompanied by good test weight, excellent resistance to lodging, and good resistance to the prevalent diseases of the soft white and soft red winter wheat production areas of the Corn Belt.

Table 1. Varietal yield and agronomic performance as recorded in Pioneer wide area yield tests from 1989-1991.

Year	Cultivar	Yield <sup>@</sup>	Test Weight <sup>@</sup>	height	Heading date	Lodge	Leaf rust	Leaf blight	Powd. mild.	SSMV	SBMV <sup>+</sup>
		bu/a	lb/bu	cm	Jan. 1	1-9	1-9	1-9	1-9	1-9	1-9
1991	2737W	68.6	54.9	99.6	129.9	-	4.3	6.5	4.5	7.3	7.0
	2550	62.9	56.7	100.1	130.0	-	2.3	4.0	6.5	7.5	7.3
	2548	68.3	57.2	95.0	128.1	-	5.7	6.0	8.0	4.0	2.7
	Augusta	55.5	51.1	115.6	136.0	-	3.5	-	-	6.0	5.5
	Frankenmuth	55.0	51.0	115.1	136.8	-	4.0	-	-	5.0	6.0
	# locations	7	7	2	2		1	1	1	2	1
1990	2737W	86.1	57.8	83.8	133.0	-	7.0	5.0	3.3	-	9.0
	2550	75.9	58.7	88.9	132.5	-	5.5	3.0	4.3	-	9.0
	2548	88.6	60.3	88.9	131.5	-	7.0	5.0	4.7	-	5.0
	Augusta	78.3	55.0	96.5	141.0	-	8.5	7.0	5.0	-	9.0
	Frankenmuth	73.6	56.5	114.3	141.0	-	8.0	6.0	5.8	-	9.0
	# locations	4	3	1	2		2	1	2		1
1989	2737W	86.6	55.2	94.0	144.0	9.0	8.0	3.5	6.5	6.8	9.0
	2550	80.8	55.9	101.6	144.0	7.5	7.0	4.8	6.5	7.0	8.0
	2548	87.5	57.1	94.0	143.0	9.0	8.0	4.0	9.0	5.3	2.0
	Augusta	76.2	55.5	104.1	149.0	7.0	9.0	4.3	7.0	5.0	8.0
	Frankenmuth	79.4	56.9	114.3	150.0	7.0	9.0	3.3	7.0	4.9	6.0
	# locations	5	4	1	1	1	1	2	1	4	1
3 YR MEAN	2737W	80.4	55.8	92.5	135.6	9.0	6.4	5.0	4.8	7.1	8.3
	2550	73.2	57.1	96.9	135.5	7.5	4.9	3.9	5.8	7.3	8.1
	2548	81.5	58.2	92.6	134.2	9.0	6.9	5.0	7.2	4.7	3.2
	Augusta	70.0	53.9	105.4	142.0	7.0	7.0	5.7	6.0	5.5	7.5
	Frankenmuth	69.3	54.8	114.6	142.6	7.0	7.0	4.7	6.4	5.0	7.1
	# locations	16	14	4	5	1	4	4	4	6	3

@ 2737W, 2550, and 2548 have 18 and 12 locations of data for yield and test weight, respectively.

\* scale of 1-9 where 9 = excellent or resistant, 1 = poor or susceptible.

+ data gathered from Univ. of Illinois SBMV nursery.

1991 locations: Truxton, MO., Altamont, and Mascoutah, IL, Carlisle, Ft. Branch, Westport, Windfall, and Howe, IN., Napoleon, Pittsburg, and Bucyrus, OH, Blissfield, MI.

1990 locations: Ft. Branch, Windfall, and Howe, IN., Napoleon, OH, Blissfield, MI..

1989 locations: Ft. Branch, Windfall, and Howe, IN., Napoleon, OH, Blissfield, and Lake Odessa, MI..

Table 2. Soft wheat milling and baking quality data from the Pioneer Quality Lab, Johnston, IA., 1987-1991.

Cultivar	FLR yield	BFL yield	FLR prot.	FLR WR	Cookie	Top grain	TGR abn	Milling score	Baking score
	%	%	%	%	cm	1-9	1-9	1-9	1-9
2737W	70.9	36.8	8.4	54.4	20.0	3.8	7.7	7	7
# observ	6	6	6	6	6	6	6		
2550	69.5	35.1	9.1	55.7	19.2	3.6	6.3	5	6
# observ	6	6	6	6	6	6	6		
2548	70.0	36.5	9.2	56.1	18.9	4.4	5.2	5	4
# observ	3	3	3	3	3	3	3		
2555	71.4	39.3	8.9	53.4	19.9	6.0	5.7	8	8
# observ	6	6	6	6	6	6	6		
Augusta	69.2	34.4	9.0	52.1	19.6	4.4	6.4	5	6
# observ	6	6	6	6	6	6	6		
Frankenmuth	70.1	34.5	9.1	52.4	19.2	3.7	7.0	5	6
# observ	6	6	6	6	6	6	6		

Trait abbreviations used in the above table.

FLR yield = flour yield in percent.

BFL yield = break flour yield in percent.

FLR pro = flour protein in percent.

FLR WR = flour alkaline water retention capacity in percent.

Cookie = diameter of 2 cookies in cm.

Top grain = top grain rating of cookie, 1 = poor, 9 = excellent.

TGR abn = abnormalities of cookie top grain, 1 = narrow valleys, 9 = wide valleys.

Milling score = rating which weights flour yield 60% and break flour yield 40%.  
1 = poor, 9 = excellent.

Baking score = rating which weights cookie spread 60% and AWRC 40%. 1 = poor,  
9 = excellent.

## 14E. Exhibit E. Statement of the Basis of Applicant's Ownership

Pioneer Hi-Bred International, Inc., Plant Breeding Division, believes it is the sole, original, and the first breeder of the 2737W cultivar of soft white winter wheat for which it solicits a certification of protection.